

## Making Tracks December 2001 Tolume 01, Number 12

## Choosing a Live or Artificial Christmas Tree; Which is Better for the Environment?

by Mark Grueber, Urban Forester

very year as the Christmas season approaches, I often hear: "I'm going to buy an artificial tree this year to protect the environment!" It's unfortunate that we have developed the notion that the proper harvest of trees damages the environment and the use of plastics is environmentally friendly. The truth is that almost all live, cut Christmas Trees are grown on farms, not in the forest. Thanks to the annual demand for Christmas trees, thousands of acres of otherwise unfarmed land are growing Christmas Trees.

## Live Christmas trees have positive effects on the environment:

- they produce oxygen and remove carbon dioxide from the air
- they improve soil stability
- they provide an aesthetically pleasing improvement to the land and bring value to portions of land which could not be used to grow other crops
- they serve as wildlife habitat
- they are a renewable resource
- they are naturally biodegradable: instead of mulching the tree, you can create a fish habitat by weighting the base of the tree and sinking it in a pond
- More trees are planted than are harvested each year

## **Artificial Christmas Trees and their effects on the environment:**

- they are manufactured from PVC, plastic and metal which are environmentally damaging and non-renewable resources
- upon their disposal, artificial Christmas trees pollute our landfill sites for centuries as they are not biodegradable
- The average life span of an artificial tree is only six years. At this point they are not able to be recycled.

Rather than a live, cut tree you may consider the use of a live tree that can be planted after its use as a Christmas tree. The successful transplanting of these trees can be difficult however, as the transition between a warm, dry house and the cold, windy conditions outside can be too much for the tree.

## If you choose this method, here are some suggestions for increasing your success rate:

- Keep the root ball moist, but not soggy. Burlap will tend to shed water so you should allow the water to wick through the root ball.
- Do not remove the burlap to expose the soil. The root ball will fall apart tearing the root system away with it.
- Place the tree in an area away from furnace vents or drying heat.
- Ease the transition from the warm house to colder temperatures by placing the tree in a cool area (e.g., garage or basement) for several days before planting. Pick a warmer day for planting, especially if you know the temperature will be above freezing for several days.
- Keep the tree inside for as few days as possible. The sooner you plant the tree, the better its chance for survival.
- Make sure your planting site will support the species you use. All evergreens should be planted in well drained soils. Eastern White Pine, Concolor Fir, Douglas-fir, Norway Spruce, or Eastern Redcedar will have the best chance of survival in our area

Whichever method you prefer, the selection of a live Christmas tree is better for the environment than an artificial tree. Good luck, Merry Christmas and Happy Holidays!



## Powder Valley Conservation Nature Center

## Powder Valley Conservation Nature Center Nature Films For December

## December 1 & 2

10:00 a.m. - 11:00 a.m. & 1:00 p.m. - 2:00 p.m. Eyewitness: Flight; Eyewitness: Bird 11:00 a.m. - Noon & 2:00 - 3:00 p.m. Cardinals: Up Close

## December 15 & 16

10:00 a.m. - 11:00 a.m. & 1:00 p.m. - 2:00 p.m.

Eyewitness: Weather; Eyewitness: Tree

11:00 a.m. - Noon & 2:00 p.m. - 3:00 p.m.

Missouri's Tallgrass Prairie

## December 29 & 30

10:00 a.m. - 11:00 a.m. & 1:00 p.m. - 2:00 p.m. It's Happening Today on the ChesapeakeBay 11:00 a.m. - Noon & 2:00 p.m. - 3:00 p.m. Fishing III

## December 8 & 9

10:00 a.m. - 11:00 a.m. & 1:00 p.m. - 2:00 p.m.

Outside with Billy B.;

Eyewitness: Rock & Mineral

11:00 a.m. - Noon & 2:00 p.m. - 3:00 p.m.

Hunting III

## December 22 & 23

10:00 a.m. - Noon & 1:00 p.m. - 3:00 p.m. Life on Earth

## Shown in the Auditorium - Free of Charge Groups Welcome!

Children's films

10:00 a.m. - 11:00 a.m. & 1:00 p.m. - 2:00 p.m.
Saturday & Sunday
All Ages films

11:00 a.m. - Noon & 2:00 p.m. - 3:00 p.m.
Saturday & Sunday

No Reservations Required

## 11715 Cragwold Road Kirkwood, MO 63122 (314) 301-1500

## **LOCATION:**

From I-44 east in Kirkwood, take Watson Road, exit and turn north on Geyer Road. Follow Geyer Road 200 yards to Cragwold Road. Go 1 mile west on Cragwold Road.

## **AREA HOURS**:

Daylight Savings Time: 8 a.m. to 8 p.m. Central Standard Time: 8 a.m. to 6 p.m.

## NATURE CENTER HOURS:

Open all year, 7 days a week, from 8 a.m. to 5 p.m.

## **GIFT SHOP HOURS:**

Open all year, 7 days a week, from 8 a.m. to 4:30 p.m. Closed some holidays.

## **ABOUT THE AREA:**

112 acres of forestland and winding creeks, three hiking trails (one wheelchair accessible). Open to visitors free of charge.



## Resident Artisans - Wood Turning

Saturday, December 8 Sunday, December 9 10:00 a.m. - 4:00 p.m. Noon - 4:00 p.m.

Powder Valley is pleased to bring back the Woodturners of St. Louis. Club members will show you how a wood lathe works and all the tools used to create items such as bowls, tops, miniatures, pens and other objects. Free tops to the tiny tots who visit the demonstration. Woodturning has been around over 3000 years, and its origins can be traced back to ancient Egypt. Come share this historic craft with your family. The club members will have items for sale so you can purchase that special holiday gift. Demonstrations will take place in the lobby. No reservations required.



While shopping, remember all profits from Gift Shop sales fund conservation programs. Come in and browse around!

News from

## Rockwoods Reservation

## **Holiday Hangings are a Hoot!**

by Erin Connett, Naturalist

The staff at Rockwoods Reservation has received many calls on just how people interact with nature and the many questions they may have. "What do you feed the birds this time of year?" is probably the

most asked question in winter. Use a general seed mix if you want several types of birds to flock to your feeders or we suggest picking up our "Backyard Bird Feeding" brochure for specific types of bird seed to use. We do not suggest a diet strictly containing bread; it may fill up the birds too much and they will not eat the nutrient-rich seeds they need.

Another suggestion for giving your feathered friends a treat for the holidays is making pine cone

ornaments. Take a pine cone and smear peanut butter over the entire cone. Next, cover the peanut butter with mixed seed, tie string around the top, and hang the pine cone from a branch of a tree. On December 18th there will be a workshop on making holiday wreaths for the birds. These wreaths can be a great edition to your backyard and will attract many different types of wintering songbirds. Check the calendar page for

program times and reservations.

The response and enthusiasm about wildlife is wonderful for the Rockwoods' staff. We enjoy teaching people about the unique aspects of nature and the environment. Come in this month to the Nature Center to see the new display on wintering birds.

Note: Rockwoods Reservation has a Christmas Tree Drop-Off Site from December 26 through mid-January at the Hillside Picnic Area. Please be sure to

remove all ornaments, tinsel and cover bags.



## 2751 Glencoe Road Wildwood, MO 63038 (636) 458-2236

## **LOCATION:**

<u>From I-44</u>, take Hwy 109 (Eureka exit) north 4 miles to Woods Avenue; left on Woods Avenue, and then immediately right on Glencoe Road; follow signs.

From Hwy 40 (1-64), take Clarkson Road south to Manchester Road; right (west) on Manchester to Hwy 109; left (south) on Highway 109, 2 miles to Woods Avenue; right on Woods Avenue, and then immediately right on Glencoe Road; follow signs.

From Manchester Road, take Hwy 109 south 2 miles to Woods Avenue; right on Woods Avenue, and immediately right on Glencoe Road; follow signs.

## **AREA HOURS**:

Sunrise until 1/2 hour after sunset.

## VISITOR CENTER HOURS:

Open seven days a week all year, except holidays, from 8 a.m. to 5 p.m. Closed some holidays.

## **ABOUT THE AREA:**

All facilities are free to the public including:

- \*Education Center with exhibits and interpretive programs.
- \*1,898 acres of rugged, mostly hardwood forested land interspersed with springs and streams.
- \*Two picnic areas (one with charcoal grills) with drinking water, tables, and toilets.
- \*Seven trails (one is selfguided and wheelchair accessible) totaling more than 10 miles.

## **Attention Scouts and Scout Leaders:**

Starting in 2002 you will have three opportunities each month to visit an interpretive site in the St. Louis area where you can "Scout for Badges!" These interpretive sites will have information and activities to help you with various (not all) achievements for conservation related badges. Times for the Discovery Tables are 10:00 a.m. to 2:00 p.m., unless otherwise noted. The following are scheduled for January 2002:

## Powder Valley Conservation Nature Center-January 5, 2002

State Symbols Scout Discovery Table-For, Junior Girl Scouts Let's Get Outdoors: Wildlife #1, Bear Scouts Achievement #3, Wolf Scouts Achievement #2

## **Busch Conservation Area-January 12, 2002**

Endangered Species Scout Discovery Table-For Brownie Scouts Eco-Explorer #5, Junior Girl Scouts: Let's Get Outdoors: Wildlife #6, Bear Scouts Achievement #5

## Rockwoods Reservation-January 19, 2002

Area Information and Conservation Careers Scout Discovery Table-For, Junior Girl Scouts: Let's Get Outdoors: Your Outdoor Surroundings #7, Bear Scouts Achievement #5

# How to register for a **DECEMBER** Program

intended for individuals and families only. If you are unable to attend a program, please call and cancel your reservation as a courtesy to those on our Reservations are required unless otherwise specified. Reservations will be taken Monday through Friday from 8:00 a.m. to 5:00 p.m. Programs are waiting list. Please limit requests to two programs per month, with only one to include an Ages 3-6 program. Please be prompt. Arrival after 10 minutes may exclude you from the program. Interpreting services are available for people with hearing loss with five days advanced notice.

For reservations, call (636) 458 - 2236

## Winter Animal Mania **Tracks and Signs**

dusted ground makes for a great season to watch classroom study and then we will investigate the outdoors in the winter looking for animal tracks for Missouri Animals tracks and signs. Join us (Families) Winter with its bare trees and snow as we learn about animals in the winter with a and signs. Dress for weather. (Reservations 10:00 a.m. - Noon begin November 19.)

## What Would You Eat 12 Homeschool Special: With Your Beak?

life in your backyard and have fun with activities fast. Doughnuts, juice and coffee served for your the weather. (Reservations begin December 3.) on the different foods each bird has for breakbeak. This program is half outdoors. Dress for (Families) Come discover the diversity of bird 10:00 a.m. - 11:30 a.m.

## Birdwatching Gift Making/

and take a naturalist led bird hike. Kids dress for a mess with paints. Adults dress for the weather. the family so leave them with us to make nature gifts for the family. Adults will stay on the area with us. Kids have a hard time getting gifts for (Families) Bring the family and leave the kids 10:00 a.m. - Noon

# BUSCH AREA

For reservations, call (636) 441 - 4554

## Gifts From Nature

from station to station at their own pace. (Reservayour parents or grandparents a really neat gift that items will be made from things found in nature or about things in nature. Participants will proceed (Families) Kids, have you ever wanted to give you made yourself? Here is your chance! Gift 10:00 a.m. - Noon tions begin November 16.) Saturday

## Clark Hike 👺

be after sunset. If we are lucky, we may hear owls Clark Trail at Weldon Springs. We will time it so sunset. The last 1.25 mile portion of the hike will and other voices of the night. Participants should that we are at the last Missouri River overlook at wear sturdy hiking boots, dress in layers, bring a (Age 15 to adult) Join us as we hike the 5.3 mile flashlight. (Reservations begin November 16.) filled water bottle, trail snacks, and a good 1:00 p.m. - 6:00 p.m. Saturday

# **Outdoor Winter Survival**

things found in the woods? How about building a Age 8 to adult) Could you build a lean-to out of woods. This class will take place both inside and plants were good to eat and where to find them? Learn how to survive if you become lost in the fire without matches? Would you know which outside. (Reservations begin November 16.) 12:30 p.m. - 2:00 p.m.

## Owl Prowl

(All Ages) Did you know that we have owls 7:30 p.m. - 9:00 p.m. Saturday

# DWDER VAI

For reservations, call (314) 301 - 1500

## Bears Take Naps, Too!

Saturday

9:00 a.m. - 10:00 a.m. & 11:00 a.m. - Noon

hibernating animals. Make your bear its own den for the (Ages 3-6) Bring your teddy bear and learn about winter. (Reservations begin November 20.)



# Lewis & Clark Expedition

10:00 a.m. - 11:30 a.m.

**3&10** *Monday* 

naturalist who was fortunate enough to have done it. (Reservations begin (Adults) Travel the Lewis & Clark Trail vicariously with a volunteer November 20 & 27 respectively.)

# HOMESCHOOL PROGRAMS

Thursday

12:30 p.m. - 2:30 p.m.

makes them special. Plan to hike in the woods to find owl pellets and then Awesome Owls (Ages 3-6) Come learn about owls and what dissect them. (Reservations begin November 20.)

Amazing Owls (Ages 7-12) Winter is owl breeding season. Join us to learn about these amazing predators. Learn what they had for dinner by dissecting an owl pellet. (Reservations begin November 20.)

# A Holiday Story & A Craft

10:00 a.m. - 10:45 a.m.

(Ages 3-6) Join us for a holiday story or two and a special craft project to take home. (Reservations begin November 23.) Friday

## **Predator Prey**

Saturday

10:00 a.m. - Noon &

(Ages 7-12) Join us on this cold winter day, to learn how 1:30 p.m. - 3:30 p.m.





(Reservations begin December 3.)

## 8 Holiday Wreath Making

feed the birds by crafting a natural wreath with lots of edible goodies for our feathered friends. (Families) Get in the holiday mood and help 10:00 a.m. - 11:30 a.m. Materials provided. (Reservations begin December 4.)

## A Winter Hike by a Forest Stream

year. Dress for the weather. (Reservations begin goodies! Join us as we hike the Lime Kiln Loop (All ages) Come hike off the holiday treats and Frail. We'll observe signs of life along the way and discuss nature's adaptations to this time of 1:00 p.m. - 3:00 p.m. December 17.) Saturday

around us, even in the city? If you have ever heard sound to you. Owls are really fascinating creatures some owls in close to us. Warm clothing is a must them in the night, it might have been a very eerie winter visitors, then we will take a short walk on Join us for an introduction to Missouri owls and trees and call their haunting calls from above us. the Fallen Oak Trail to listen and hopefully call of the night that fly on silent wings through the for the walk portion of this program. (Reservaions begin November 30.)



# SOULARD OUTDOOR TEACHER RESOURCE CENTER

For reservations, call (314) 231-3808.



# Holiday Decorating with Nature

5:30 p.m. - 7:30 p.m.

Missouri Department of Conservation

1926 South 12th St.

St. Louis, MO 63104

Come have fun learning to decorate with natural materials on December 12 at historic Soulard Market area. Decorating supplies will be provided. Sign your the Conservation Department's Education Resource Center located in the family up early as space is limited to only 13 people.

Call by Friday, December 7, 2001 to register.

predators catch their prey. (Reservations begin November 27.)

Saturday

Sunday

# Resident Artisans - Wood Turning

10:00 a.m. - 4:00 p.m. &

(All ages) Lathe and tool demonstrations in the lobby. (No reservations required.)

## **Animals In Winter**

10:00 a.m. - 11:00 a.m. & 1:00 p.m. - 2:00 p.m.

(Ages 3-6) What do animals do in very cold weather to find food and take care of themselves? (Reservations begin November 27.)

# Tap! Tap! Tap! Woodpeckers!

 $\overline{T}uesday$ 

10:00 a.m. - 10:45 a.m.

(Ages 3-6) Come learn about those noisey birds - the woodpeckers. We'll make a suet feeder to take home, too! (Reservations begin November 27.)

## Winter Friends

10:00 a.m. - 11:30 a.m. &

1:00 p.m. - 2:30 p.m.

(Families Only Please) What strategies have animals developed to help them survive winter? Find out as we talk about them and make winter snacks for our winter friends. (Reservations begin December 4.)

## Winter Wildlife Walk

Wednesday

7:30 a.m. - 9:30 a.m.

(All Ages) Discover how relaxing a December morning can be away from where we can observe the winter wildlife. Participants should dress for wildlife viewing area. Then, we'll head outdoors to Emmy for a stroll the weather and provide their own transportation. (Reservations begin the shopping malls. We'll have coffee and donuts, indoors, at PV's December 5.)

## Holiday Sing-Along 22 Saturday

3:00 p.m. - 4:30 p.m.

(All Ages) Join us for a traditional holiday sing-along indoors around the fireplace. Song sheets provided. (Reservations begin December 11.) News from

## Busch August A.

## Memorial Conservation Area

## A HOLIDAY FEAST FOR THE BIRDS

by Rhonda Anderson, Interpretive Programs Supervisor

So you're ready for the holidays, right? The decorations are up, the presents are wrapped, the holiday dinner is planned; but baye you derive the control of the presents are wrapped, the holiday dinner is planned; but have you done anything for your feathered friends? Oh sure, the feeders are filled with bird seed, but you do that all winter long. How about making this month special for the birds that brighten up your yard. What can you do? Try decorating a tree or shrub in your yard just for them! Here's how: Edible Ornaments

## Edible Garland

-string raisins, peanuts in the shell, cranberries, or small pieces of apple, orange, or other fruit, and wrap the strings around a tree or shrub in the yard.

## Edible Wreaths

-cut wire and make into a circle, bend ends over so they can be hooked together when finished -carefully push cranberries or small fruit onto the wire -hook ends together and

-tie a piece of string onto a pinecone -spread creamy peanut butter all over the pinecone -roll in birdseed till covered hang on a tree branch or from a shrub

**DO NOT** use bread, Cheerios, or Cheetos. Although these may be filling for the birds, they have little nutritional value and can cause a bird to starve to death on a full stomach.

Don't forget the water! Even in the winter, birds still need to drink water. You can buy a heater for your bird bath or put out a shallow dish of water that can be easily thawed out and the water changed.

So remember your feathered friends this holiday season and add decorative color to your yard naturally!

## Migrants and Residents

by Sarah Winfrey, Naturalist

"Far in the blue I saw them, a long skein of dots undulating like a floating ribbon pulled toward the south by an invisible cord tied to the point of its V." Sigurd Olson, The Singing Wilderness

Another autumn has passed by, and with it, millions of migrating birds. Many Canada geese, like those described above, have left our area, following the great Mississippi flyway southward. As fall migration ends, our attention shifts from the skies to our backyards, where Northern Cardinals, Blue Jays, and Tufted Titmice skirmish over birdfeeder perches. These birds are year-round residents, sometimes nesting within yards of their wintertime food sources.

Why do some birds migrate while others don't? Why should winter drive away a ten-pound goose while a half-ounce chickadee stays put, never blinking at the plunging mercury?

When thinking about migration, we tend to consider weather as the primary motivation. Actually, such migrants as waterfowl, shorebirds, and others have plenty of feathered insulation. What drives their fall movement is food. Flycatchers and warblers, for example, are mostly gone from Missouri by October--because they feed on insects. Seed-eating birds, relying on both human and natural sources, can usually stay

well-fed, using deep brush for protection during storms. However, without mud to find worms in, or puddles to dabble in, down-covered ducks, sandpipers, and plovers must choose either migration or starvation.

Even powerful bald eagles must migrate - or switch their feeding habits. When lakes and rivers freeze, eagles fly toward open water, often congregating around locks and dams to catch fish where constant turbulence keeps ice at bay. Those that remain in the north feed on carrion, especially road-killed animals.

Winter is a time to marvel at nature's resiliency; to discover unusual birds visiting from the north, to enjoy the sight of hardy residents, and to watch the southern skies for the first migrants of spring.

2360 Highway D St. Charles, MO 63304 (636) 441-4554

## **LOCATION:**

From Hwy 40, take 94 south to Hwy D; turn west on D for approx. 1 miles. From I-70, take 94/First Capitol exit; turn south on Hwy 94 to Hwy D; turn west on D for approx. 1 miles. The area entrance is on the north side of Hwy D.

## **HOURS:**

Area is open from 6 a.m. until 10 p.m. See area regulations for special hunt hours. Fishing hours are from 6 a.m. until 9 p.m. Rental boats are available April 1 through September 30. The office is open Monday through Friday from 8 a.m. until 5 p.m. and Saturday and Sunday from 8 a.m. until 4 p.m. It is closed some state holidays.

## **ABOUT THE AREA:**

6,987 acres with 32 lakes and 40 ponds totaling 526 acres of water for fishing. There are six viewing blinds (two are wheelchair accessible), seven hiking trails totaling 5 miles, picnic area, staffed firearms range, and fishing jetties (some are wheelchair accessible). The area has interpretive programs, exhibits, demonstration sites and is used by bicyclists.

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## **BIRDS! BIRDS! BIRDS!**

ooking for a fun, educational, and important classroom activity for this winter? Do you have a bird feeding area at you school? Then check out this web site: Classroom 

Classroom FeederWatch is an exciting research and interdisciplinary education curriculum for students in grades 5 -8. Students learn how science and scientist work and in the process, become scientist themselves. Students learn not only how to identify birds but they also learn how to collect, analyze, and display data to answer their own questions and use their findings to describe how the natural world works. Data the students collect is also used by professional ornithologists in their studies of bird populations.

Classroom FeederWatch has been developed by the Cornell Laboratory of Ornithology and is an extension of Project FeederWatch which began as a winter survey of birds that visit backyard feeders. The information collected from Project FeederWatch and Classroom FeederWatch is used each year by scientists to track changes in bird abundance, distribution and movement. This information gives scientists a chance to understand population fluctuations of many common birds and help ensure their survival.

Does your family or youth group want to become involved with the important collection of information on bird populations? Then check out Project FeederWatch at <a href="http://birds.cornell.edu/">http://birds.cornell.edu/</a>  $pfw \ge .$ 



## **BUSCH RANGE**

**Hours for December 2001:** 

10:00 a.m. - 4:00 p.m. Friday - Tuesday Closed Wednesday & Thursday For more information, call (636) 441-4554 ext. 251

## **HENGES RANGE**

Hours for December 2001:

10:00 a.m. - 4:00 p.m. Wednesday - Sunday Closed Monday & Tuesday, Special Events & Holidays For more information, call (636) 938-9548

## WHAT ABOUT OTHER ANIMALS?

Yes! You can also become involved with other citizen monitoring projects. The following are a few web sites you might want to visit.

Interested in Butterflies? Check out Monarch Watch: <a href="http://www.monarchwatch.org">http://www.monarchwatch.org</a>

How about amphibians? Check out Frogwatch USA <a href="http://www.mp2-pwrc.usgs.gov/frogwatch">http://www.mp2-pwrc.usgs.gov/frogwatch</a> Or North American Amphibian Monitoring Program <a href="http://www.mp1-pwrc.usgs.gov/amphibs.html">http://www.mp1-pwrc.usgs.gov/amphibs.html</a>

Are you interested in monitoring migrating species? Check out Journey North <a href="http://www.learner.org/jnorth">http://www.learner.org/jnorth</a>

## WORD OF THE MONTH -

**Monitor** - To watch and check at regular intervals in order to find out how a population is progressing or developing



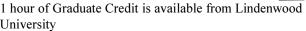
Missouri

## **Upcoming** Workshops

## **Project WET**

December 17 & 18, 2001 9:00 a.m. - 5:00 p.m.

August A. Busch Memorial Conservation Area



Cost \$60.00 per credit hour

Workshop Fee: \$15.00 for cost of activity books

Project WET (Water Education for Teachers) is an interdisciplinary, hands-on resource that just drips with creative ideas for teaching about one of the most important ingredients for life...water. Teachers, youth leaders and educators are invited to play along and get "wet" with us as we float through the activity guide. The activities presented in Project WET are ready to use, well referenced, and user friendly. They are also correlated with the "Show-Me" standards. Registration is required by December 3, 2001. For more information or to register please call (636) 441-4554.





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## **Making Tracks**

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Rhonda Anderson

## Interpretive Programs Supervisor, Powder Valley:

Janice Starke and Cindy Bruns

**Interpretive Programs Supervisor, Rockwoods:** 

Tom Meister

## Volunteer \_\_\_\_\_ Milestones

## **Rockwoods Reservation**

Kate Edwards	1600 hours
Sheila Mapes	300 hours
Glenda Myers	1500 hours
Joe Ritter	200 hours
John Ruprecht	200 hours
Jim Westbury	2000 hours
Meg Wilson	400 hours

## **Busch Conservation Area**

Larry Taylor.....1100 hours

Thanks for all your effort and help!

## Powder Valley Nature Center

Bob Anderson1900 hours
Alma Dulz2400 hours
Karen Goellner1600 hours
Eleanora Markus200 hours
Jack McGinnis3500 hours
Rita Mueller500 hours
Joe Schleeper700 hours
Kris Shannon300 hours
Marjorie Yamada2000 hours